

Appendix E-4: San Jan Islands

Figure E-4.4 San Juan Islands sub-basin pocket estuary locations, likely Chinook functions, and observed stressors.

Pocket Estuary Identifier	Latitude	Longitude	Photo ID #	Freshwater (Y/N)	Likely Chinook Functions			Shoreline Development	Urbanization	Diking and Filling	Susceptibility to spills and discharges	Aquaculture related substrate alterations	Vulnerability to Sea Level Rise	Final Chinook Function Score		
					Feeding	Osmoreg.	Refuge									
SJ1 - False Bay	48.487	123.075	0206121423	Y	x	x	x							PF	PF = Property Functioning	
SJ2 - Mitchell Bay	48.572	123.158	0206121413	N	x		x	x					x	PF	NPF=Not Properly Functioning	
SJ3 - Westcott Bay 1	48.581	123.149	0206121408	Y	x	x	x							PF	AR=At Risk	
SJ4 - Westcott Bay 2	48.608	123.143	0206121405	Y	x	x	x							PF		
SJ5 - Open Bay	48.596	123.182	0209091132	Y	x	x	x							PF		
SJ6 - Roche Harbor	48.608	123.153	0206121401	Y	x	x	x	x	x		x		x	NPF		
SJ7 - Davison Head	48.621	123.149	0206121350	N	x		x	x					x	AR		
SJ8 - Rocky Bay	48.6	123.103	0206121452	Y	x	x	x							PF		
SJ9 - North Bay	48.519	123.012	0206121438	N	x		x	x		x	x		x	AR		
SJ10 - American Camp	48.462	123.983	0206121433	N			x							NPF		
SJ11 - Davis Bay	48.456	122.909	0206131136	Y	x	x	x							PF		
SJ12 - Mud Bay	48.445	122.846	0206131229	N	x									PF		
SJ13 - Fortress Island	48.461	122.819	0206131202	N	x		x						x	PF		
SJ14 - Spencer Spit	48.535	122.855	0206131237	Y	x	x	x						x	PF		
SJ15 - Shoal Bay	48.553	122.873	0206131300	N	x		x	x						PF		
SJ16 - Fisherman Bay	48.509	122.921	0209091116	N	x		x	x		x			x	AR		
SJ17 - Squaw Bay	48.56	122.95	0206131322	Y	x	x	x	x						PF		
SJ18 - Wasp	48.586	123.007	0206131313	N	x		x	x						AR		
SJ19 - Harney1	48.598	122.939	0206121310	Y	x	x	x	x		x			x	AR		
SJ20 - Harney2	48.597	122.904	0206121312	N	x		x	x						AR		
SJ21 - Foster Pt.	48.594	122.884	0206121314	Y	x	x	x							PF		
SJ22 - Cascade Creek	48.621	122.833	0206121330	Y	x	x	x	x					x	AR		
SJ23 - Doe Bay	48.64	122.782	0206121339	Y	x	x	x							PF		
SJ24 - Deer Harbor	48.625	123.004	0206121258	Y	x	x	x	x		x	x		x	AR		
SJ25 - Massacre Bay	48.643	122.985	0206121304	Y	x	x	x							PF		
SJ26 - White Beach Bay	48.631	122.957	0206121307	Y	x	x	x	x		x	x		x	AR		
SJ27 - West Sound	48.608	122.952	0206121309	Y	x	x	x	x					x	AR		
SJ28 - Decatur 1	48.482	122.82	0206131209	N	x		x							PF		
SJ29 - Decatur 2	48.51	122.788	0206131214	N	x		x	x		x			x	AR		

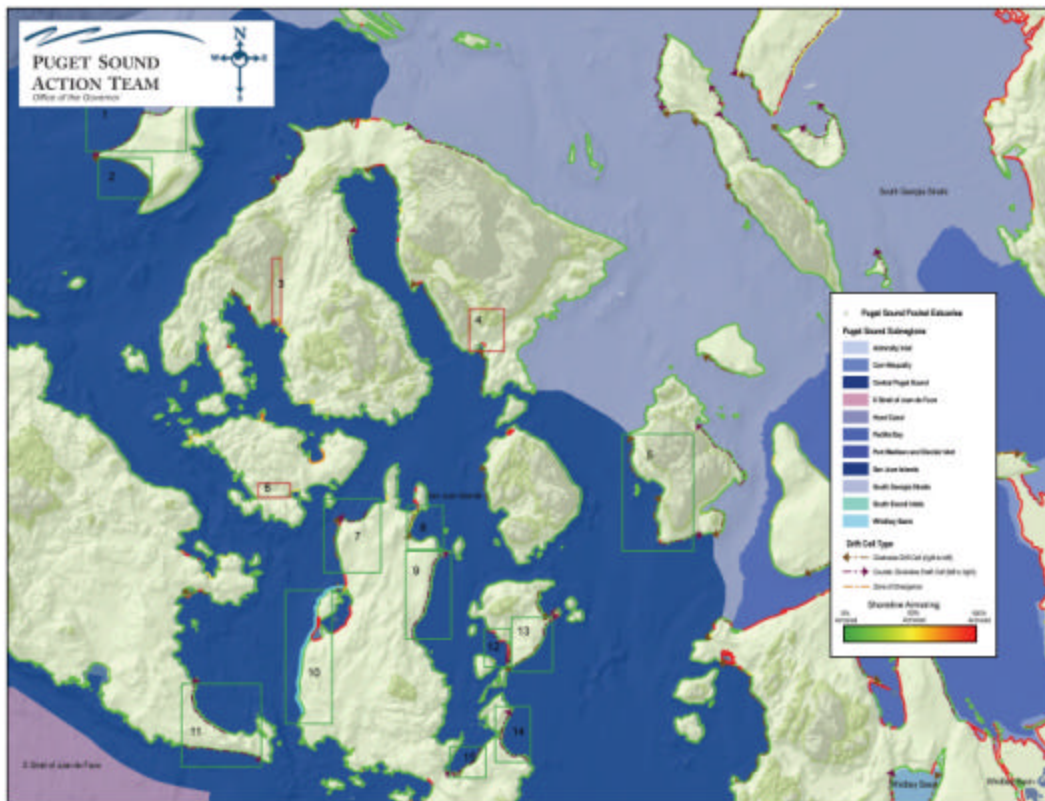


Figure E-4.5 San Juan Islands sub-basin analysis of drift cells and shoreline armoring

San Juan Islands

Boxes 1 and 2 – These 2 boxes inscribe the only two active drift cells on Waldron Island. The soft sediments on the west side of the island are shaped by prevailing seasonal winds from the north and south that create the long depositional point Sandy Point.

Boxes 3, 4 and 6 – These boxes inscribe upland sediment sources for important pocket beaches and estuaries on Orcas and Shaw Islands. Most other pocket estuaries appear to be the result of tidal currents rather than freshwater outflow.

Box 5 – The entire western shoreline of Cypress Island should continue to be protected from armoring as it is one of the largest stretches of soft sediment shoreline in the San Juan Islands

Box 7 – The two converging drift cells within this box support a large depositional point and associated broad subtidal shelf on the northwest corner of Lopez Island.

Boxes 8 and 9 – The two converging drift cells along this shoreline support the large depositional Tombolo and lagoon feature at Spencer Spit State Park.

Box 10 – This long drift cell on the west side of Lopez Island supports the large and complex spit separating Fishermen's Bay from Griffin Bay in Lopez Village.

Box 11 – The Two drift cells running in opposite directions on the southern tip of San Juan Island respond to the strong tidal currents within Griffin Bay and Haro Strait. These shorelines are almost completely inside the San Juan National Historical Park and are expected to remain protected from degradation. The Griffin Bay drift cell contains several small lagoons that appear to be the result of frequent overwash.

Boxes 12 – 15 – Interactions between these four drift cells and the complex rocky shoreline and small islets between Decatur and Lopez Islands create a variety of shallow water habitats including sandy beaches, tombolos, spits and lagoons.

Other San Juan shorelines – The limited amount of fine grain sediments that can be moved by longshore drift and create depositional features means that forage fish spawning potential is also limited. The few places where such grain sizes exist for surf smelt and sand lance spawning particularly should be protected from further degradation.